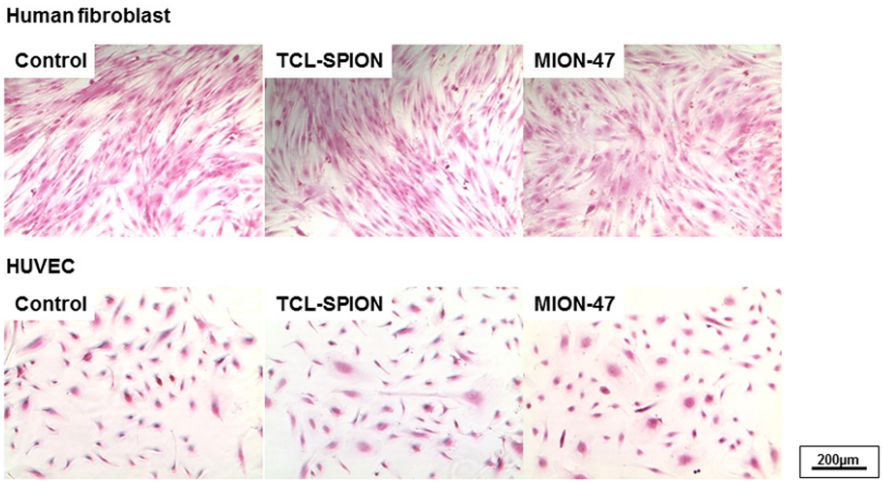
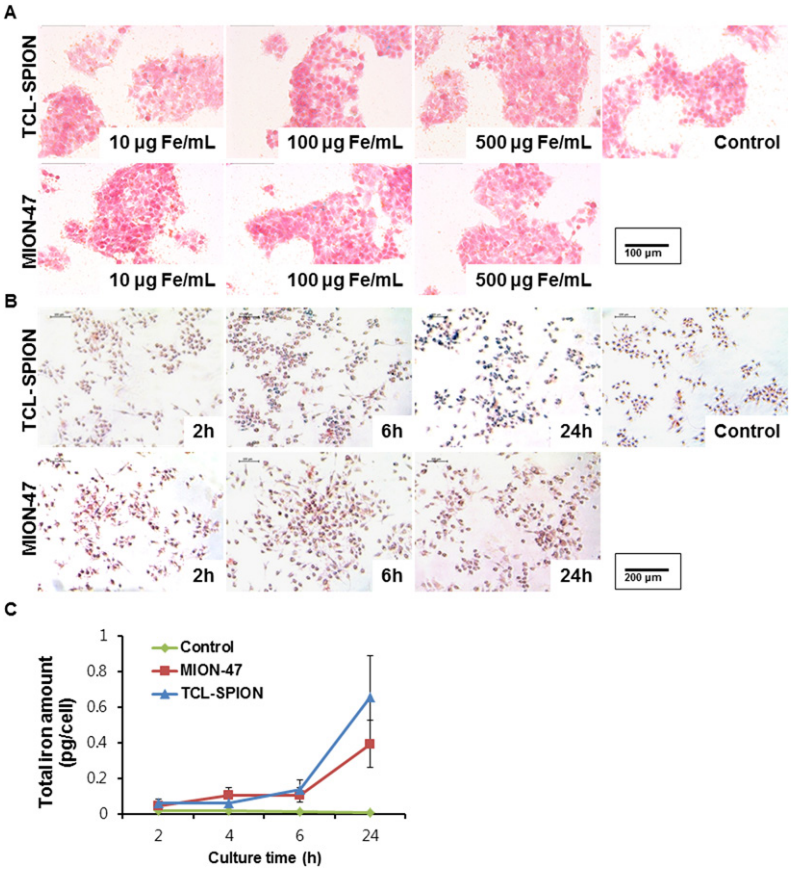
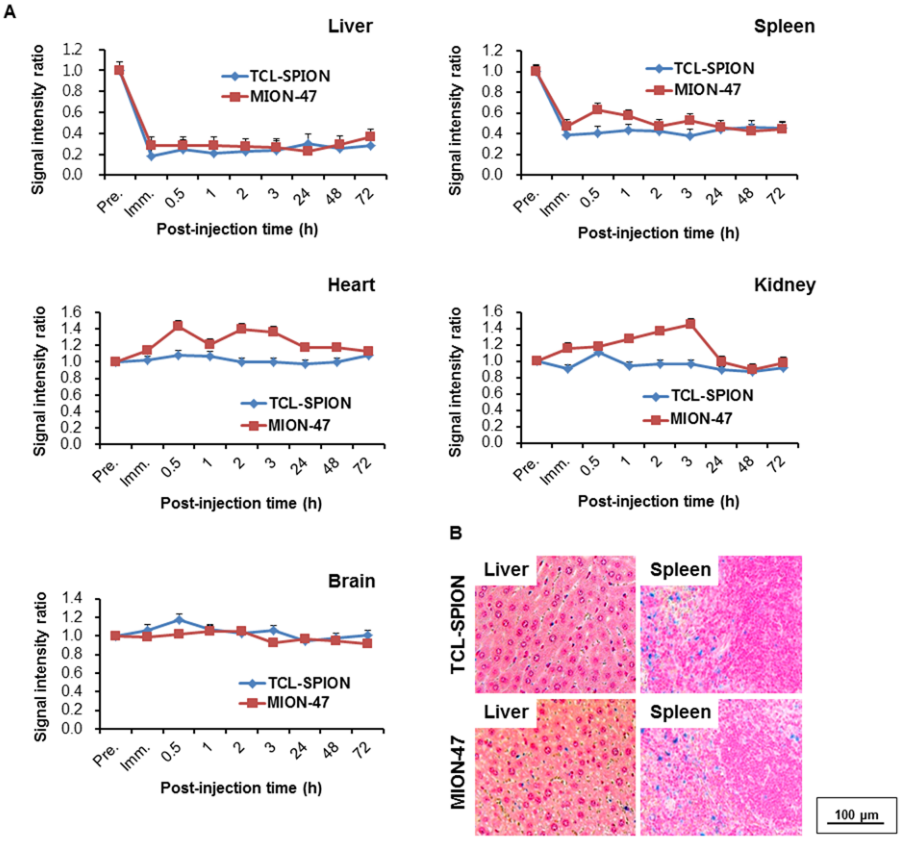
Supplementary Material



Supplementary data 1. Prussian blue staining of human fibroblast and human umbilical vein endothelial cell (HUVEC) incubated with TCL-SPION and MION-47. TCL-SPION and MION-47 uptake was not detected in either cell type, even at high concentrations (1 mg Fe/mL).



Supplementary data 2. Analysis of iron oxide uptake in cancer cells and macrophage incubated with TCL-SPION and MION-47. (A) Human liver cancer cells (Hep G2) were treated with TCL-SPION or MION-47 at concentrations of 10 µg Fe/mL, 100 µg Fe/mL, and 500 µg Fe/mL for 24 hours, and Prussian blue staining was performed. The Hep G2 cells did not take up the nanoparticles. (B, C) Macrophages (RAW264.7) were treated TCL-SPION or MION-47 at a concentration of 50 µg Fe/mL for 2, 6 and 24 hours. Prussian blue staining was performed, and the total cellular iron was measured. All data are presented as the means ± standard errors from at least three independent experiments.



Supplementary data 3. *In vivo* biodistribution of TCL-SPION and MION-47. (A) The changes in MR signal intensity in the liver, spleen, heart, kidney and brain before and after intravenous injection with 12.5 mg Fe/Kg of TCL-SPION and MION-47. A remarkable decrease in signal intensity was detected in the liver and spleen after the administration of the TCL-SPION and MION-47. (B) The analysis of the accumulated TCL-SPION and MION-47 in the liver and spleen. At 72 hours post-injection, Prussian blue staining was performed in the liver and spleen microsections. Both nanoparticles were found in the liver and spleen phagocytic cells. All data are presented as the means ± standard errors from at least three independent experiments.